WHAT IS CLAIMED IS:

1. A brake system for a vehicle, comprising:

a brake apparatus that applies braking force to each wheel of the vehicle; and

a controller that controls the braking force applied to the wheel by controlling the brake

5   apparatus so that an actual slip rate of the wheel matches a target slip rate, wherein the controller is adapted to:

during a specific brake control mode in which the target slip rate is set so as to prevent the actual slip rate of the wheel from exceeding a reference value and therefore avoid locking the wheel, make a first correction to the target slip rate set in the brake control

10   mode such that the actual yaw rate of the vehicle matches a target yaw rate; and

ensure through an adjustment of the target slip rate, a provision of a greater longitudinal force on the wheel than that obtained with the target slip rate determined or would have been determined by the first correction if a reduction in braking force of the vehicle is expected.

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2. The brake system according to claim 1, wherein the controller is further adapted to make the first correction when the vehicle is turning so that a cornering performance of the vehicle improves.

20   3. The brake system according to claim 1, wherein the controller is further adapted to bring about the adjustment of the target slip rate by increasing the target slip rate determined by the first correction.

4. The brake system according to claim 1, wherein the controller is further adapted to

25   bring about the adjustment of the target slip rate by prohibiting the first correction.

5. The brake system according to claim 1, wherein the controller is further adapted to expect the reduction in the braking force of the vehicle when the vehicle is running on a poor surface road.

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6. The brake system according to claim 1, wherein the wheels are a right wheel and a left wheel of the vehicle and the controller is further adapted to expect the reduction in the braking force of the vehicle when road surfaces that contact the right wheel and the left wheel of the vehicle have friction coefficients that are different from each other.

7. The brake system according to claim 1, wherein the controller is further adapted to expect the reduction in the braking force of the vehicle when there is an abnormality in the brake apparatus for any one of the wheels.

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8. The brake system according to claim 2, wherein the controller is further adapted to make the first correction such that the target slip rate of one of the wheels that is located on an outer side while the vehicle is turning is reduced relative to the target slip rate of another wheel that is located on the other side so as to improve a cornering performance of

10 the vehicle when the actual yaw rate is less than the target yaw rate.

9. The brake system according to claim 1, wherein the wheels are a right wheel and a left wheel of the vehicle and the controller is further adapted to:

determine a running speed of the vehicle;

15 determine an angle of a steering of the vehicle;

calculate the target yaw rate in accordance with the determined running speed of the vehicle and the determined angle of the steering; and

make the first correction by correcting the target slip rate of the right wheel and the target slip rate of the left wheel so that the calculated target yaw rate and the actual yaw

20 rate become equal.

10. The brake system according to claim 9, wherein the target slip rate determined by the controller is dependent on a value of time quadrature of a fluid pressure that is applied to the brake apparatus.

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11. A method of controlling a brake apparatus for applying braking force to wheels of a vehicle, the method comprising:

controlling the braking force applied from the brake apparatus to each wheel when an actual slip rate of the wheel has exceeded a reference value so that the actual slip rate

30 matches an target slip rate and the wheel is thereby prevented from being locked;

making a first correction to the target slip rate so that an actual yaw rate of the vehicle matches a target yaw rate; and

ensuring through an adjustment of the target slip rate, a provision of a greater longitudinal force on the wheel than obtained with the target slip rate determined or would

have been determined by the first correction if a reduction in braking force of the vehicle is expected.

12. The method according to claim 1, wherein the first correction is made when the vehicle is turning so that a cornering performance of the vehicle improves.

13. The method according to claim 1, wherein the adjustment of the target slip rate is brought about by increasing the target slip rate determined by the first correction.

14. The method according to claim 1, wherein the adjustment of the target slip rate is brought about by prohibiting the first correction.

15. The method according to claim 1, wherein the reduction in the braking force of the vehicle is expected when the vehicle is running on a poor surface road.

16. The method according to claim 1, wherein the wheels are a right wheel and a left wheel of the vehicle and the reduction in the braking force of the vehicle is expected when road surfaces that contact the right wheel and the left wheel of the vehicle have friction coefficients that are different from each other.

17. The method according to claim 1, wherein the reduction in the braking force of the vehicle is expected when there is an abnormality in the brake apparatus for any one of the wheels.

18. The method according to claim 2, wherein the first correction is made such that a target slip rate of one of the wheels that is located on an outer side of the vehicle while the vehicle is turning is reduced relative to a target slip rate of another wheel if the actual yaw rate of the vehicle is below the target yaw rate.

19. The method according to claim 1, wherein the target yaw rate is calculated in accordance with a running speed of the vehicle and an angle of a steering of the vehicle.

20. The method according to claim 9, wherein the target slip rate is dependent on a value of time quadrature of a fluid pressure that is applied to the brake apparatus.